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TITLE:

Polyvinyl butyral prepn. from PVA and butyraldehyde -
using inexpensive emulsifiers, for laminated glass prodn.

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PRIORITY-DATA: 1977FR-0026495 (August 31, 1977)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
BE 870091 A	February 28, 1979	N/A	000	N/A
DE 2838025 A	March 15, 1979	N/A	000	N/A
DE 2838025 C	September 10, 1992	N/A	010	C08F 008/28
DK 7803835 A	March 26, 1979	N/A	000	N/A
FR 2401941 A	April 4, 1979	N/A	000	N/A
GB 2007677 A	May 23, 1979	N/A	000	N/A
GB 2007677 B	March 10, 1982	N/A	000	N/A
IT 1109052 B	December 16, 1985	N/A	000	N/A
JP 54047795 A	April 14, 1979	N/A	000	N/A
JP 88037122 B	July 22, 1988	N/A	000	N/A
NL 7808904 A	March 2, 1979	N/A	000	N/A

INT-CL (IPC): B32B017/10, C03C017/32, C03C027/00, C08F008/28,
C08F016/06, C08F216/06, C08G004/00

ABSTRACTED-PUB-NO: BE 870091A

BASIC-ABSTRACT:

An aq. PVA soln. contg. 8-15% PVA, an acid catalyst and an emulsifier is prepd. and maintained at 5-12 degrees C, when butyraldehyde is added, with stirring, in amt. sufficient to react with 75-85% of the PVA in the mixture. The butyraldehyde is introduced progressively for such a time that the polyvinyl butyral pptes. between 10-90 mins. after the start of the introduction. The resulting mixt. is stirred at 8-15 degrees C for 730 mins.

The temp. of the mixt. is then raised to 60-80 degrees C, pref. 70 degrees C, over 1.5-4 hrs., and a base is then added to adjust the pH to 9-11. This temp. is maintained for 715 mins., pref. 15-mins. -4 hrs., and the pptd. polyvinyl butyral is separated from the mixture.

The properties of flow on compression, impact resistance in laminated glass form, adhesion to glass, transparency and moisture-resistance in laminated glass form, may be controlled as desired.

ABSTRACTED-PUB-NO: DE 2838025C

EQUIVALENT-ABSTRACTS:

Polyvinyl butyral is prepd. by reacting polyvinyl alcohol (PVA) in aq. soln. with butyraldehyde with an acid catalyst. The polyvinyl alcohol soln. contains 8-15 wt. % of PVA with mol. wt. 32000-106000 and an acetate content of less than 5%. The catalyst is an HCl soln. with a density of 1.18. It comprises at least 2.5 wt. % of the PVA and contains an emulsifier. The catalyst PVA soln. is mixed and stirred at 5-12 deg. C while sufficient butyraldehyde to react with 75-88% of the PVA is added gradually over the course of 1 hour. The polyvinyl butyral separates 10-90 minutes after the addn. of butyraldehyde began, and the mixt. is stirred at 8-15 deg. C for at least 30 minutes. The temp. is then raised to 60-80 deg. C for 1.5-4 hours, base is added to adjust the pH to 9-11 while maintaining the temp. for at least 15 minutes. Pptd. polyvinyl butyral is then sep'd. from the mixt..

Pref. emulsifier is dodecylbenzene sulphonate.

USE - For prodn. of bound glass with a polyvinyl butyral intermediate layer (claimed). The process is relatively cheap.